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CENTRAL FAX CENTER****MAR 15 2007****IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant(s): Lavoie, Jr. et al.

Application No.: 10/785,666

Filed: 2/23/2004

Title: POLISHING COMPOSITIONS FOR
CONTROLLING METAL INTERCONNECT
REMOVAL RATE IN SEMICONDUCTOR WAFERSArt Unit:
3723Examiner:
B. R. Muller

Attorney Docket No.: 03012US

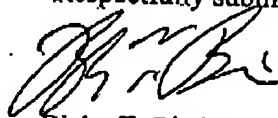
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450**REPLY BRIEF**

Applicants respectfully reply to the Examiner's Answer dated February 27, 2007.

The Answer notes that polyvinyl alcohol (PVA) represents only one of nine especially preferable polymers and that it would be obvious to select PVA from the nine listed film forming agents. Assuming one would be motivated to substitute the inhibitor of Tsuchiya et al. with the inhibitor and "preferred" water soluble polymer combination of Kurata et al., the odds of selection remain long. In summary, the rejection combines a 1 in 50 thickener choice from Tsuchiya et al. (Para. 39 to 41), with a 1 in 100 "especially preferable" film forming agent choice of Kurata et al. (Para. 44) and a 1 in 9 "especially preferable" water-soluble polymer choice of Kurata et al. (Para. 45) for a total of 1 combination from a total of 45,000 combinations to form the rejection. From these remote odds, the action selects benzotriazole with polyvinyl alcohol of Kurata et al. (selected from the thousands of CMP slurry patents) to substitute for the benzotriazole of Tsuchiya et al. in combination with polyvinylpyrrolidone. The selective combining long odds from one patent with long odds from another patent represents an improper obvious to try standard.

The Answer concludes on page 11 that it is the view of the Examiner that the combination of Tsuchiya et al. and Kurata et al. does not in any way teach away from Applicants' claimed invention. The proper standard for reviewing prior art is that of one of ordinary skill in the art—In re Katzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1316 (Fed. Cir. 2000), a critical step in analyzing the patentability of claims pursuant to 35 U.S.C.S. § 103(a) is casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field. The Examiner's Answer notes that "the teaching of Kurata that PVA increases removal rate is only tested in the polishing composition of Kurata, which is different than the polishing composition of Tsuchiya." This statement recognizes the uncertainty of polishing properties in combining the references and illustrates the lack of motivation to one skilled in the art to combine the references. The Examiner's Answer further reasons that "the disclosure of Kurata only shows that a composition having PVA has a higher polishing removal rate than a composition with no PVA but does not show the effects that different amounts of PVA within the composition would have." Testing with and without ingredients is how those skilled in the art screen particular polishing ingredients for polishing effects. Furthermore, item 7 in the Declaration of Dr. Thomas, one of at least ordinary skill in the art of slurry development, notes that Kurata teaches that PVA increases copper removal rate. Applicants maintain that Kurata et al., through factual interpretation of Table 1, teach away from the claimed invention to one of ordinary skill in the art.

Respectfully submitted,



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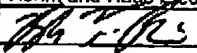
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| | Filing Date | Feb 23, 2004 | |
| | First Named Inventor | Lavoie, Jr., Raymond Lee | |
| | Art Unit | 3723 | |
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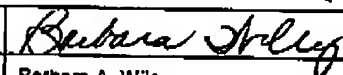
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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

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|--------------|---|----------|--------|
| Firm Name | Rohm and Haas Electronic Materials CMP Holdings, Inc. | | |
| Signature |  | | |
| Printed name | Blake T. Biederman | | |
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